

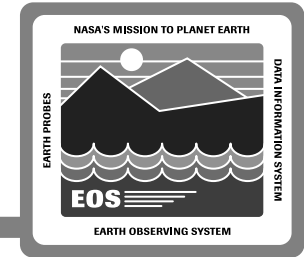
Interoperability Subsystem

John Farley

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**ECS Release A SDPS/CSMS Critical Design Review
15 August 1995**

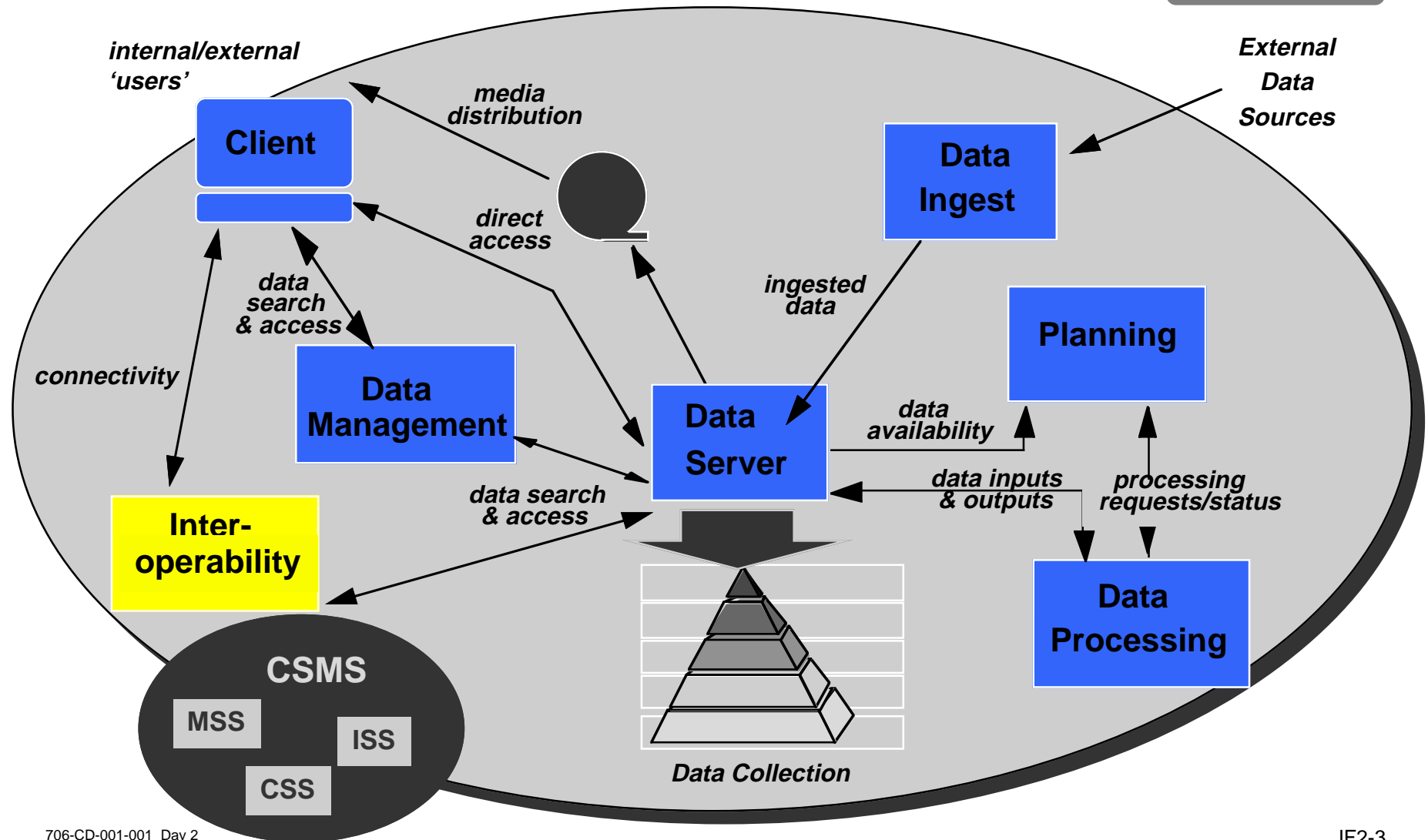
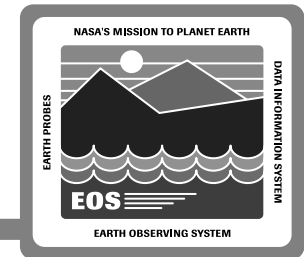
Interoperability Subsystem



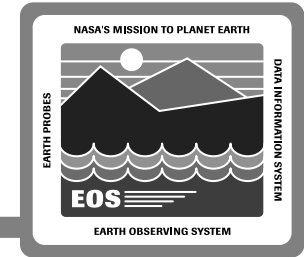
Roadmap

- Interoperability Overview
- Advertising CSCI
- Design Scenarios
- Advertising Integration

Interoperability Overview



Interoperability Overview (Cont.)



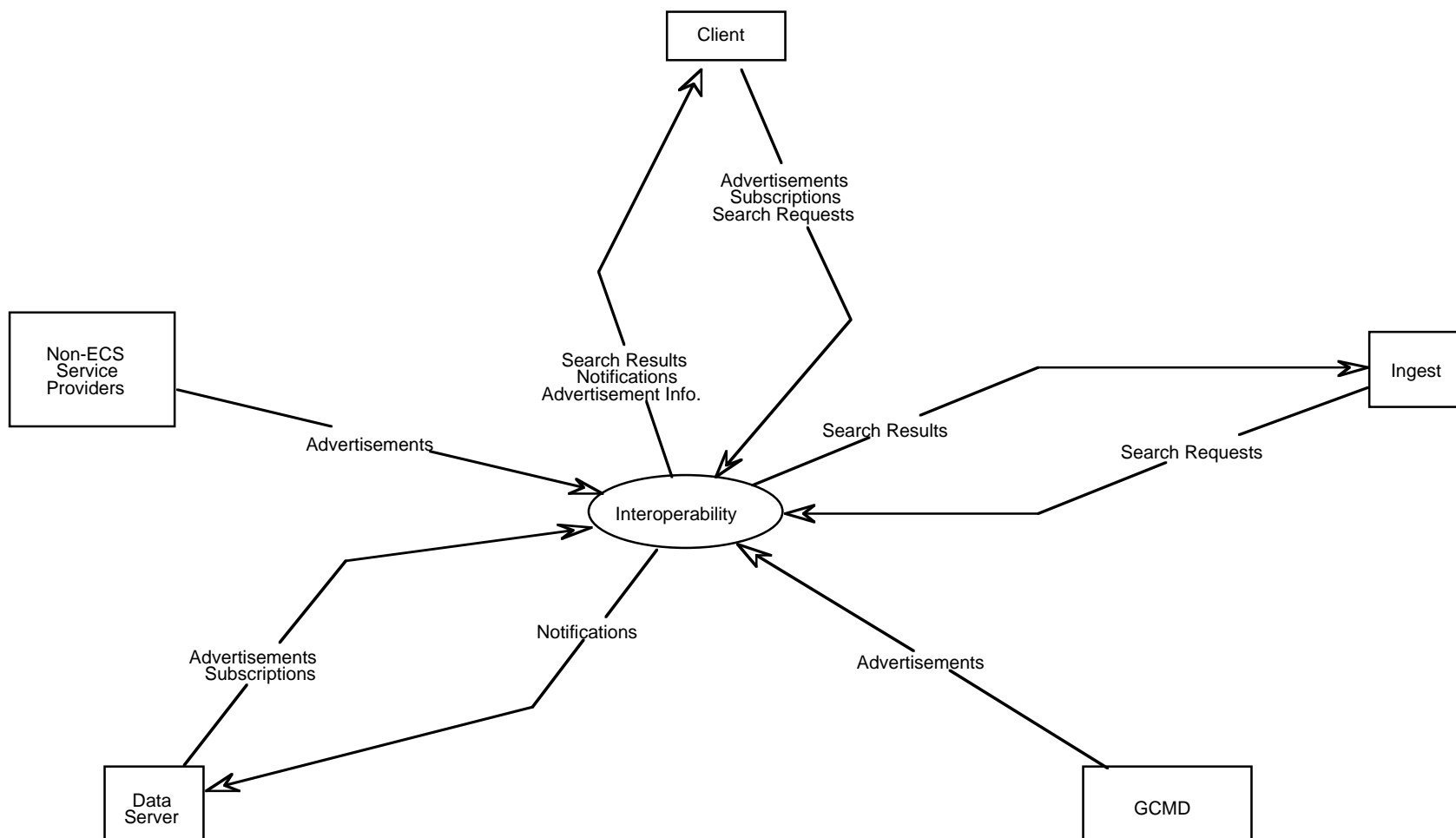
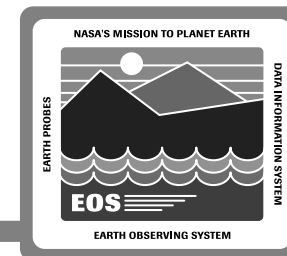
Incremental Track Subsystem

Advertising Service CSCI

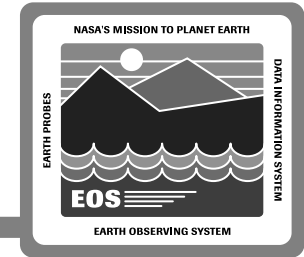
- Provide an integrated view of the data and service network
 - Maintain advertisements for Data, Services and Providers
- Allow for an extensible provider network
- Advertising Groups (with Moderators)
- Restricted Access to Advertisements

Interoperability Hardware CI combined with Data Management Hardware CI

Interoperability Context



Interoperability Subsystem



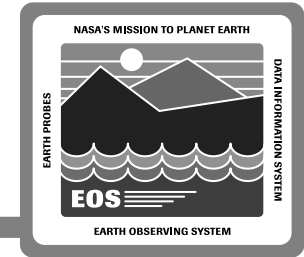
Changes Since PDR

- **Replication Server**
- **Interface Signature Repository**
- **Early Release of Advertising UI (Earth Pages)**

COTS Selections

- **Sybase DBMS & Replication Server**
- **HTTP/WAIS server**

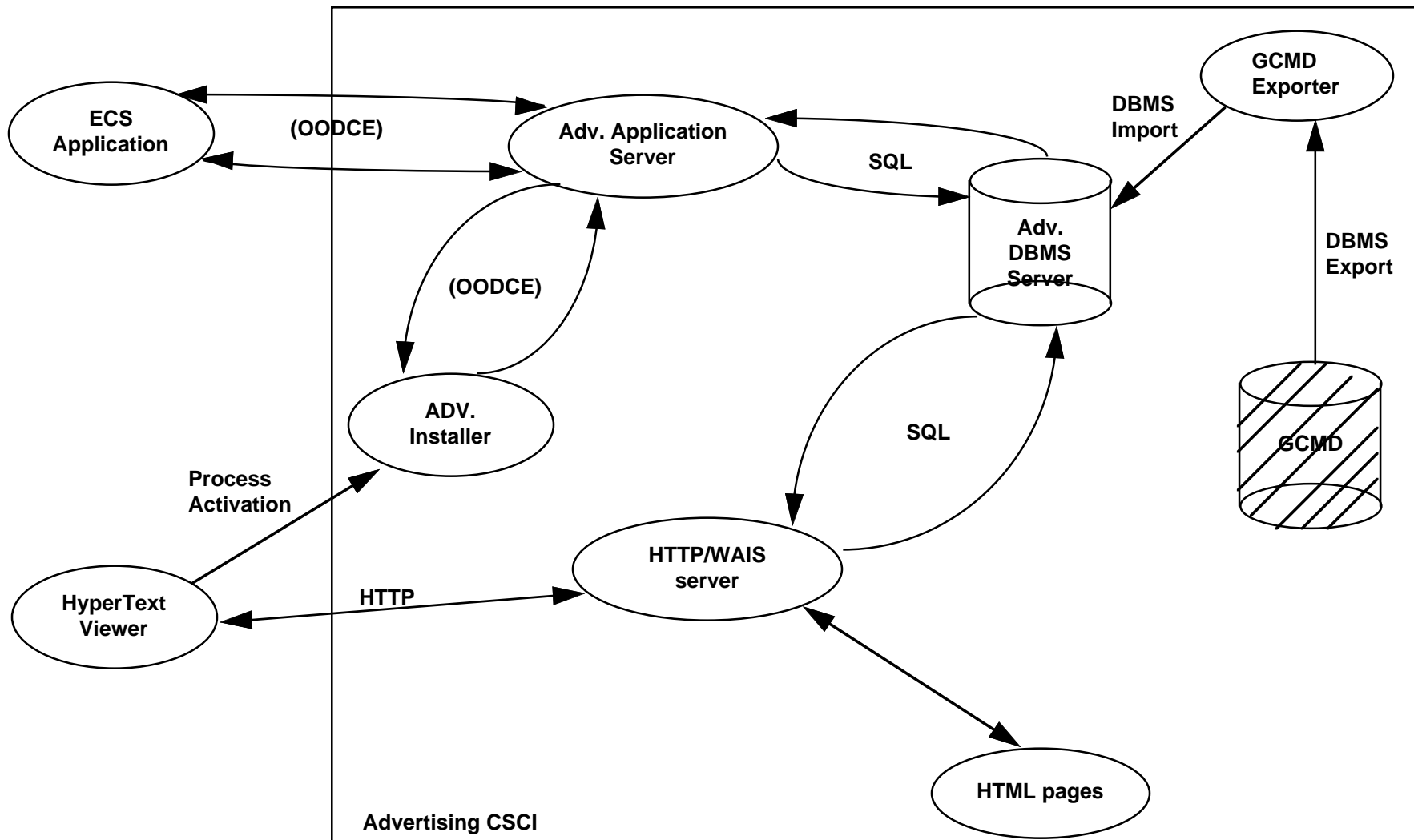
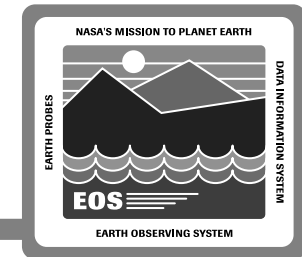
Interoperability Subsystem



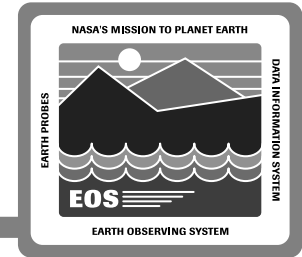
Advertising Prototyping Status

- **EP-4 Initial Advertising Prototype (Jan 95)**
 - Web Interface to DBMS Server
 - Browse Only
- **PW-1 Prototype (May 95)**
 - Feedback from EP-4 incorporated
 - Service Installation Prototype
- **EP-6 Status**
 - Focus on API and ECS internal interactions
 - Incorporation of PW-1 lessons learned

Advertising CSCI Architecture



Advertising CSCI Components



Advertising Application Server

- Primary Advertising Interface Server
- Provides OODCE interface to Adv. DBMS Server

Advertising DBMS Server

- SYBASE DBMS & Replication Server

HTTP/WAIS Server

- COTS Web Interface

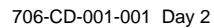
GCMD Exporter

- Custom Component
- Translates GCMD export files into ECS Advertisements

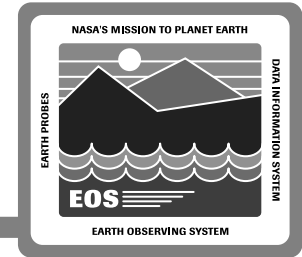
Advertising Installer

- Manages Installation of Services on Client Workstation

The logo for the Earth Observing System (EOS) Data Information System (DIS) is a square emblem. At the top, it reads "NASA'S MISSION TO PLANET EARTH". The central graphic depicts a landscape with a sun or moon, mountains, and wavy lines representing water. Below this graphic, the letters "EOS" are prominently displayed. To the right of "EOS" are three horizontal lines of increasing length. The text "EARTH OBSERVING SYSTEM" is at the bottom. On the left side, "EARTH PROBES" is written vertically, and on the right side, "DATA INFORMATION SYSTEM" is written vertically.



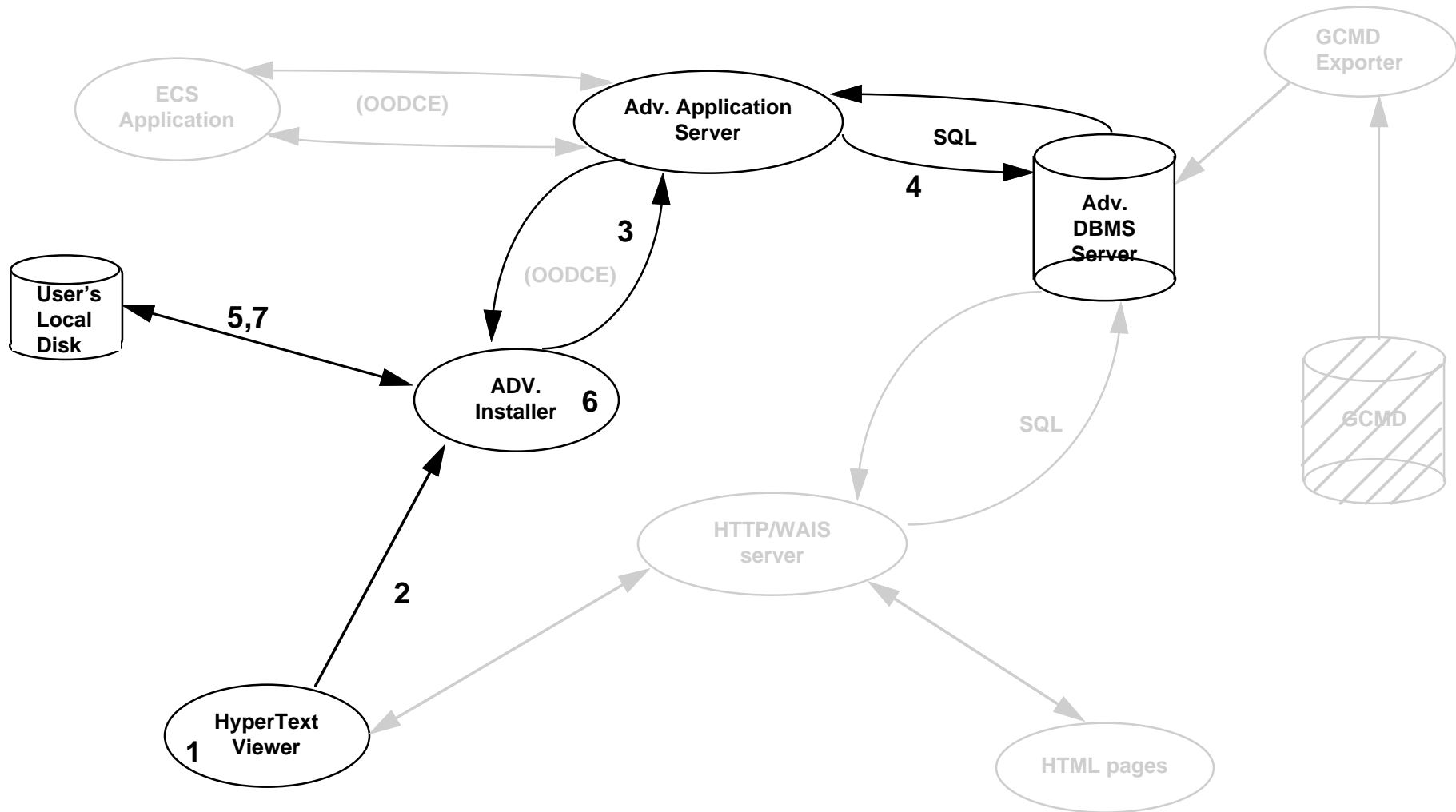
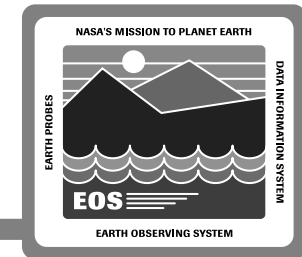
Advertising Scenario #1



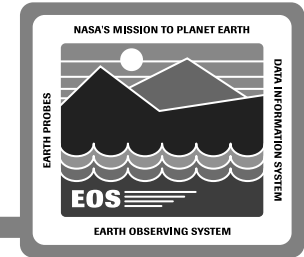
User search for product advertisement

- 1) User connects to Advertising Service via Hypertext Viewer
- 2) HTTP Server accesses Advertising HTML Pages
- 3) User fills in form for Product Advertisement search (Product form based on Core Metadata Attributes)
- 4) User submits form to HTTP Server
- 5) HTTP server sends search request to Adv. DBMS Server via CGI-BIN script.
- 6) DBMS Server returns results as formatted HTML.
- 7) HTTP Server returns formatted HTML results to Hypertext Viewer.

Advertising CSCI Scenario #2



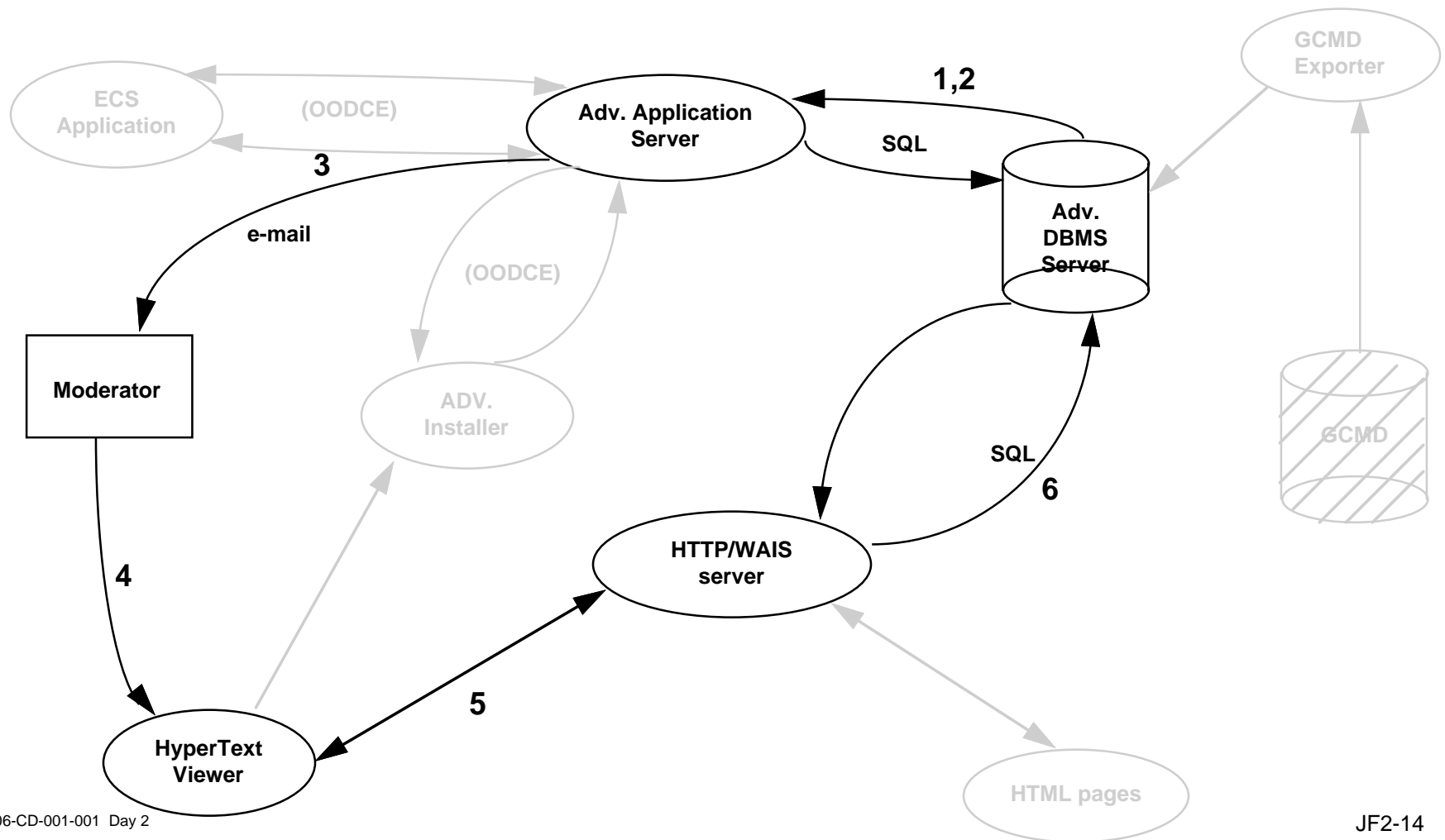
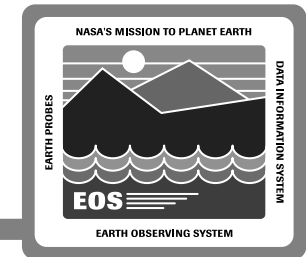
Advertising CSCI Scenario #2



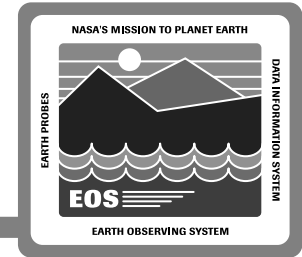
User installation of service

- User has previously performed a service advertisement search via the Hypertext Viewer.
- 1) From HTML results display user selects “Install Service”
 - 2) Hypertext Viewer spawns Adv. Installer as external viewer (Universal Reference for service software is passed to the Installer)
 - 3) Installer uses UR to access software configuration information at the Adv. Application Server.
 - 4) Application Server gets configuration information from the DBMS Server.
 - 5) Installer checks local software configuration file to check for required software.
 - 6) Installer displays list of local modifications for user confirmation
 - 7) Upon user confirmation, Installer updates user’s workstation for installation of service.

Advertising Scenario #3



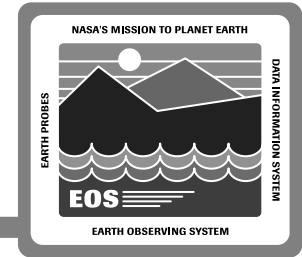
Advertising Scenario #3



Submission of Advertisement to Moderated Group

- User has submitted advertisement information via the Hypertext Viewer
- 1) Adv. Application Server receives trigger from DBMS Server for insert to moderated group.
 - 2) Application Server retrieves contact information for moderator(s) from DBMS Server.
 - 3) Application Server sends e-mail notification to the moderator.
 - 4) Moderator uses Hypertext Viewer to examine advertisement.
 - 5) After ensuring that approval criteria are met, Moderator submits approved advertisement to HTTP Server.
 - 6) HTTP Server sends approval to DBMS Server via CGI-BIN script.
 - 7) DBMS Server updates advertisement tables to activate the advertisement.

Advertising Integration



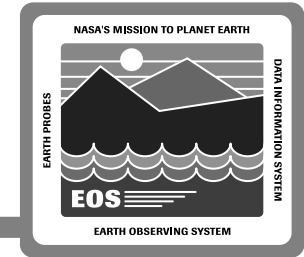
Early Release of Advertising Service (Earth Pages)

- Driven by user request based on PW-1 prototype.
- Rapid-prototyping approach to maximize user feedback.
- Focus on HTML interface and end-user interactions.
- Stand-alone system
- Does not meet all Advertising requirements.

Incremental Development (EP-6, Release A)

- Focus on operations user, API, and Program-to-Program interactions
- Integrated with ECS
- Meets all Advertising requirements

Advertising Integration (Cont.)



Integration Approach

- **Shared design & development of common components**
 - **EP-6 & Earth Pages use common database design**
 - **Earth Pages HTML used in EP-6**
- **Periodic formal integration of later components**
 - **PW-2, EP-7, Release A**
 - **Earth Pages developers modify prototype to meet ECS standards and requirements**
 - **Incremental developers modify production system to meet Earth Pages styles and interaction models.**